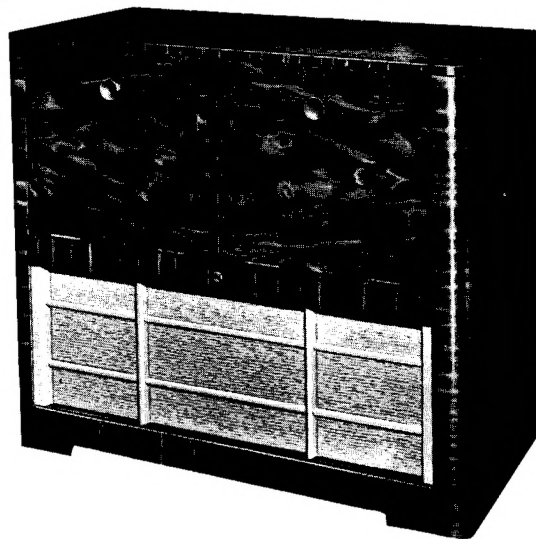


TECHNICAL INFORMATION AND SERVICE DATA

A.W.A. RADIOLAGRAMS Models 554-GA and 560-GA

FIVE VALVE, TWO BAND,
A.C. OPERATED SUPERHETERODYNES

ISSUED BY:
AMALGAMATED WIRELESS (AUSTRALASIA) LTD.



ELECTRICAL SPECIFICATIONS

Frequency Ranges:

Medium Wave 540-1600 Kc/s
(555-187.5 Metres)

Short Wave 6-18 Mc/s
(50-16 Metres)

Intermediate Frequency 455 Kc/s

Power Supply Rating 200-260 Volts
50-60 C.P.S.

(Models are produced with other voltage and frequency ratings.)

Power Consumption:

Receiver — 40 watts

Record Changer — 17 watts

Dial Lamps:

6.3 volts, 0.25 Amp. M.E.S.

Valve Complement:

- (1) 6BE6 Converter
- (2) 6BA6 I.F. Amplifier
- (3) 6AV6 Detector, A.F. Amplifier, A.V.C.
- (4) 6BV7 Output
- (5) 6X4 Rectifier

Loudspeaker:

12 inch permanent magnet AU78
Transformer XA302
V.C. Impedance 3 ohms at 400 C.P.S.

Undistorted Power Output 2.5 watts

Chassis Removal.

First remove the knobs by pulling them straight off their spindles.

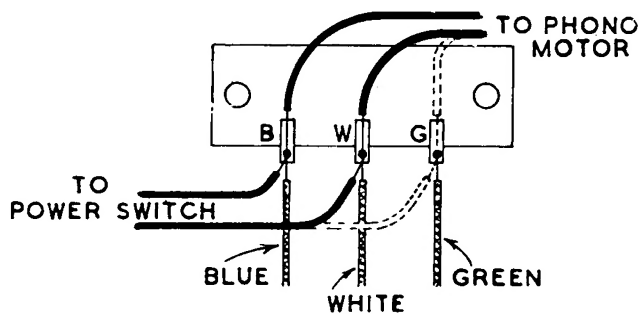
Remove the cabinet back which is held by wood screws.

Disconnect the loudspeaker cable, pick-up cable and phono-motor plug from the sockets on the rear of the chassis.

The chassis is held to the receiver compartment base board by four screws. Removal of these enables the receiver to be withdrawn.

To remove the record changer first remove two clamps securing the pick-up and phono-motor cables.

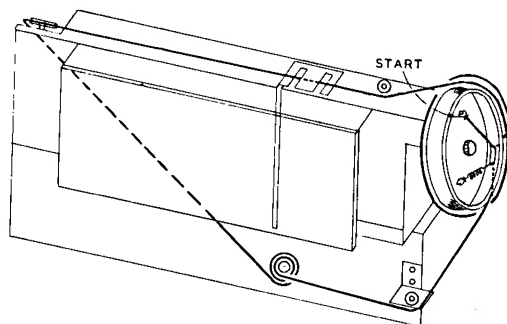
Then remove the three mounting screws holding the record changer to the base board and the changer will be free to lift out.



Connection to Power Supply.

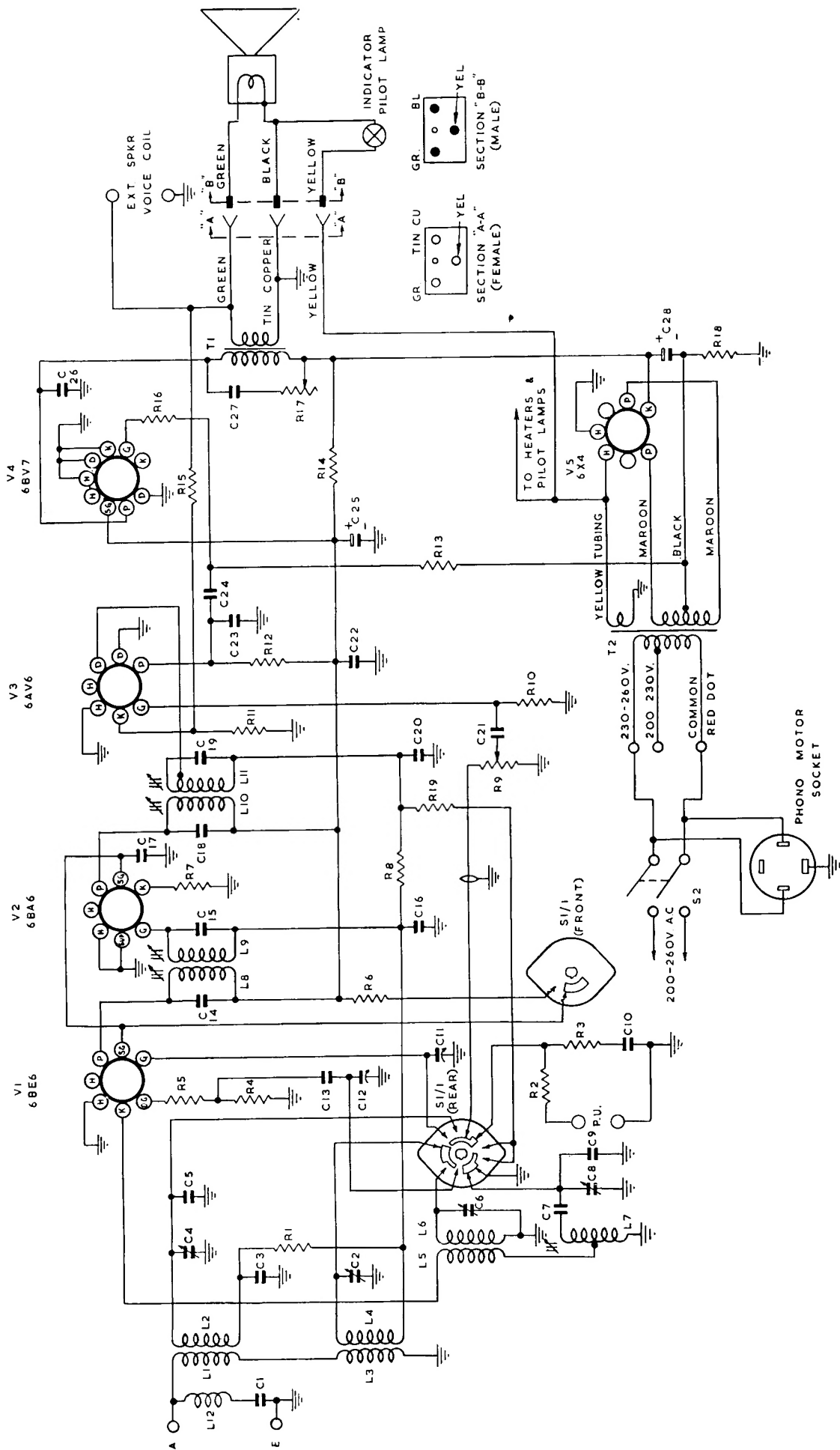
The receiver should not be connected to any circuit supplying other than alternating current from 200-260 volts and at the frequency on the label within the cabinet.

The power supply connections are shown in the accompanying diagram.



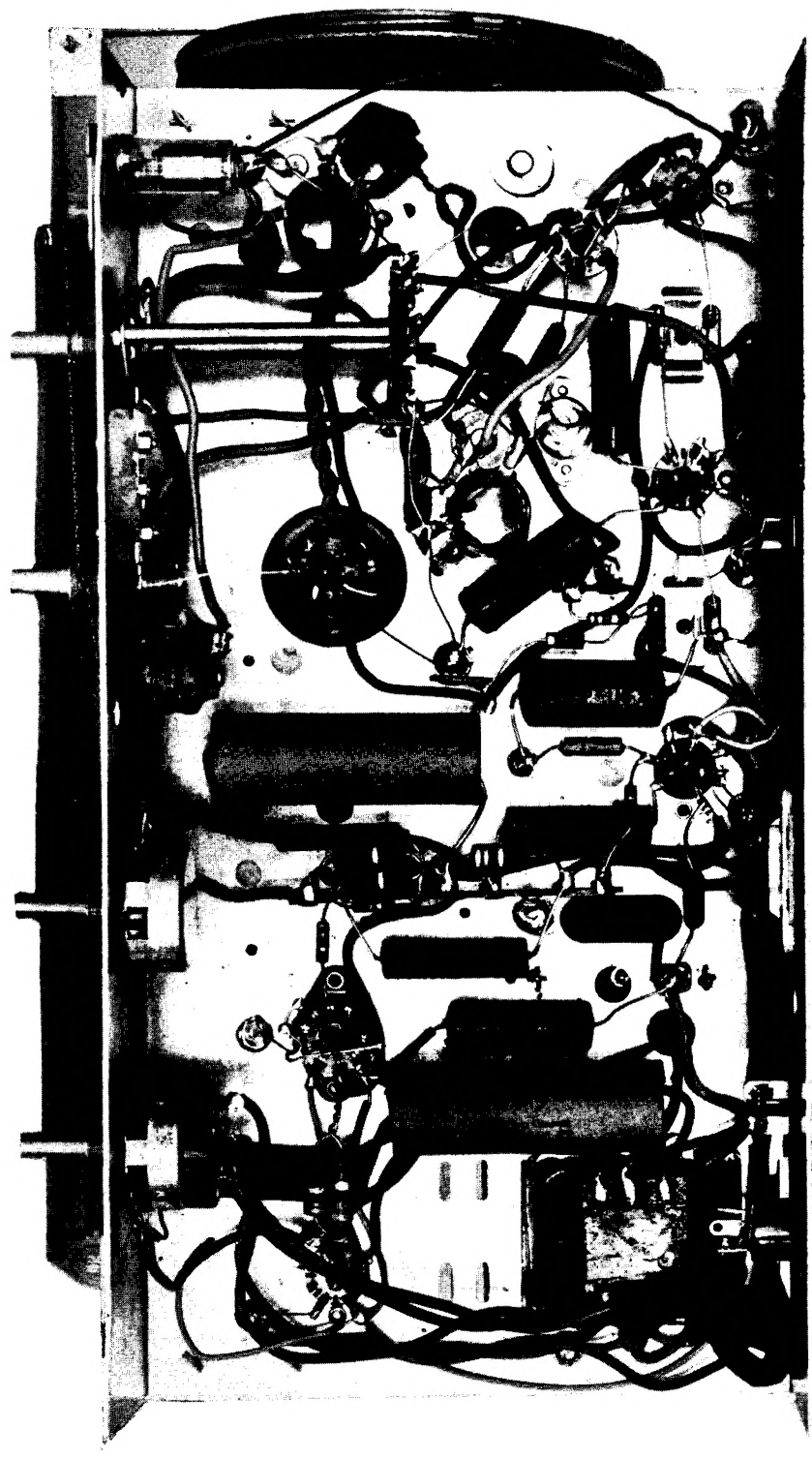
Drive Cord Replacement.

The accompanying diagram shows the route of the cord and the method of attachment.



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

A B C D E F G H J K



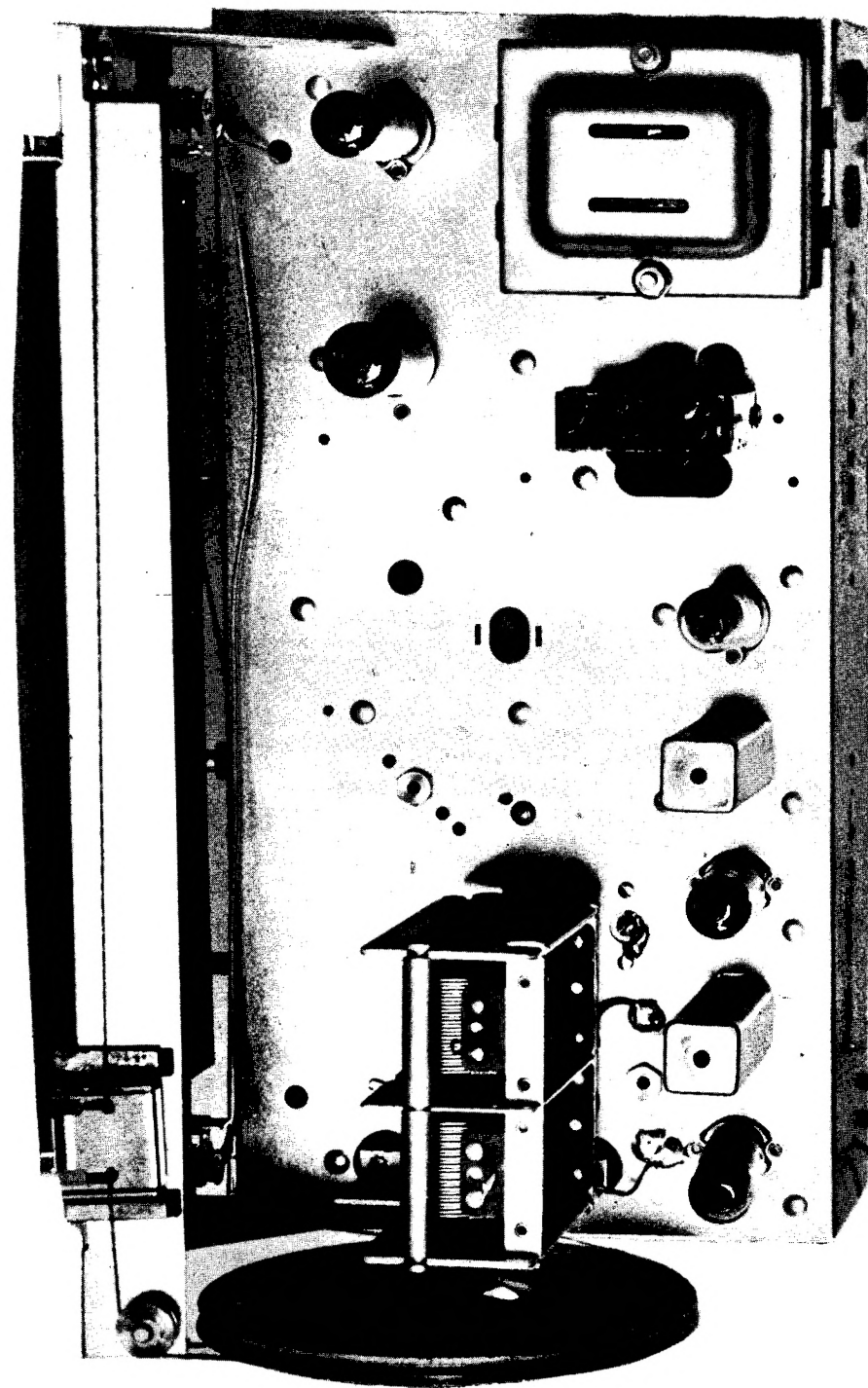
A B C D E F G H J K

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

FIG.2.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

A B C D E F G H J K L



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

FIG.1.

ALIGNMENT PROCEDURE

Manufacturer's Setting of Adjustments.

The receiver is tested by the manufacturer with precision instruments and all adjusting screws are sealed. Re-alignment should be necessary only when components in tuned circuits are repaired or replaced, or when it is found that the seals over the adjusting screws have been broken.

It is especially important that the adjustments should not be altered unless in association with the correct testing instruments listed below.

Under no circumstances should the plates of the ganged tuning capacitor be bent as the unit is accurately aligned during manufacture and cannot be readjusted unless by skilled operators using special equipment.

For all alignment operations, connect the "low" side of the signal generator to the receiver chassis and keep the generator output as low as possible to avoid A.V.C. action. Also, keep the volume control in the maximum clockwise position.

Testing Instruments.

(1) A.W.A. Junior Signal Generator, type 2R7003.

or

(2) A.W.A. Modulated Oscillator, series J6726.

If the modulated oscillator is used, connect a 0.25 megohm non-inductive resistor across the output terminals, and for short wave alignment, an additional 400 ohms non-inductive resistor in series with the "high" output lead of the instrument.

(3) A.W.A. Output Meter, type 2M8832.

NOTE.—On the short wave band the oscillator is working on the low side of the signal frequency; therefore, the image will now be heard if the receiver is tuned to a higher frequency than the signal. For example, if the receiver is tuned to receive a 16 Mc/s signal, the image will be heard at 16.91 Mc/s instead of the usual 15.09 Mc/s.

ALIGNMENT TABLE

Order	Connect "High" side of Generator to:	Tune Generator to:	Tune Receiver Dial to:	Adjust for Maximum Peak Output:
1	Aerial Section of Gang (Drive End)	455 Kc/s	540 Kc/s (4QL)	L11 Core
2	Aerial Section of Gang (Drive End)	455 Kc/s	540 Kc/s (4QL)	L10 Core
3	Aerial Section of Gang (Drive End)	455 Kc/s	540 Kc/s (4QL)	L9 Core
4	Aerial Section of Gang (Drive End)	455 Kc/s	540 Kc/s (4QL)	L8 Core
Repeat the above adjustments until the maximum output is obtained.				
5	Aerial Lead	600 Kc/s	600 Kc/s (7ZL)	L.F. Osc. Core Adj. (L7)*
6	Aerial Lead	1500 Kc/s	1500 Kc/s (3AK)	H.F. Osc. Adj. (C8)
7	Aerial Lead	1500 Kc/s	1500 Kc/s (3AK)	H.F. Aer. Adj. (C2)
Repeat adjustments 5, 6 and 7.				
8	Aerial Lead	16 Mc/s	16 Mc/s	H.F. Osc. Adj. (C6)†
9	Aerial Lead	16 Mc/s	16 Mc/s	H.F. Aer. Adj. (C4)

* Rock the tuning control back and forth through the signal.

† Use maximum capacity peak if two can be obtained. Check to determine the trimmer has been adjusted to correct peak by tuning the receiver to approximately 16.91 where a weaker signal should be obtained.

REPLACEMENT PARTS

Cabinet, Model 554-GA	28115
Model 560-GA	28117
Dial Scale	32216
Knob Assembly	26516
Knob Assembly, Phono/Radio	26519
Pointer	33093
Speed Nut, Phono Motor Socket	21915
Socket, 4 pin Phono Motor	28313
2 pin Pick-Up (Code No. 793038)	
3 pin Speaker	31825
7 pin Valve	19965
9 pin Valve (Code No. 793037)	
Spring, drive	1741

D.C. RESISTANCE OF WINDINGS

Winding	D.C. Resistance in ohms
Aerial Coil (M.W.):	
Primary (L3)	13
Secondary (L4)	1.5
Aerial Coil (S.W.):	
Primary (L1)	2.5
Secondary (L2)	†
Oscillator Coil (M.W.) (L7)	3.5
Oscillator Coil (S.W.):	
Primary (L5)	†
Secondary (L6)	†
I.F. Transformer Windings	17
Power Transformer (T2):	
Primary	50
Secondary	350
Loudspeaker Input Transformer (T1):	
Primary	350
Secondary	†

The above readings were taken on a standard chassis, but substitution of materials during manufacture may cause variations and it should not be assumed that a component is faulty if a slightly different reading is obtained.

† Less than 1 ohm.

SOCKET VOLTAGES

VALVES		Cathode to Chassis Volts:	Screen Grid to Chassis Volts:	Anode to Chassis Volts:	Anode Current mA:	Heater Volts:
6BE6	Converter	—	95	200	2	6.3
6BA6	I.F. Amp.	2.3	95	200	4.5	6.3
6AV6	Det., A.F. Amp., A.V.C.	—	—	140*	1.3	6.3
6BV7	Output	—	200	240	24	6.3
6X4	Rectifier	250	—	230/230 A.C. R.M.S.	—	6.3

Total H.T. Current = 42 mA.

Measured at 240 volts A.C. supply. No signal input. Volume Control maximum clockwise. Voltmeter 1,000 ohms per volt; measurements taken on highest scale giving accurate readable deflection.

* This reading may vary depending on the voltmeter used.

CIRCUIT CODE — RADIOLA 554-GA, 560-GA

Code No.	Description	Part No. Fig. No.	Location	Code No.	Description	Part No. Fig. No.	Location
INDUCTORS							
L1, L2	Aerial Coil 6-18 Mc/s.	28228	D16	C5	9 μ F mica		D15
L3, L4	Aerial Coil 540-1,600 Kc/s.	30768	E11	C6	2-20 μ F air trimmer	19659	G13
L5, L6	Oscillator Coil 6-18 Mc/s.	28229	F12	C7	440 μ F padder $\pm 2\frac{1}{2}\%$		F14
L7	Oscillator Coil 540-1,600 Kc/s.	32406	G16	C8	3-25 μ F trimmer	27526	B13
L8, L9	1st I.F. Transformer	27351	J5	C9	9 μ F mica		F13
L10, L11	2nd I.F. Transformer	27353	J9	C10	1,000 μ F mica		K13
L12	I.F. Filter (including C1)	9382	C10	C11	12-445 μ F tuning	18222	F4
				C12	12-445 μ F tuning	18222	F6
				C13	47 μ F silvered mica		G14
RESISTORS							
R1	0.1 megohm		E12	C14	100 μ F silvered mica (in 1st I.F.)		J14
R2	0.47 megohms		K13	C15	100 μ F silvered mica (in 1st I.F.)		J14
R3	0.39 megohms		J14	C16	0.05 μ F paper 200V working		H14
R4	22,000 ohms		H16	C17	0.05 μ F paper 400V working		G12
R5	100 ohms		H16	C18	100 μ F silvered mica (in 2nd I.F.)		J11
R6	11,000 ohms		E8	C19	100 μ F silvered mica (in 2nd I.F.)		J11
R7	330 ohms		J13	C20	220 μ F ceramic		J12
R8	2.2 megohms		G11	C21	0.01 μ F paper 600V working		G8
R9	0.5 megohm Volume Control	26442	B7	C22	0.1 μ F paper 400V working		H10
R10	10.0 megohms		J9	C23	100 μ F mica		J8
R11	30 ohms		H9	C24	0.025 μ F paper 400V working		F7
R12	47,000 ohms		G8	C25	24 μ F 350 P.V. Electrolytic		E9
R13	0.22 megohm		E7	C26	0.005 μ F paper 600V working		G6
R14	2,350 ohms		D4	C27	0.05 μ F paper 400V working		D4
R15	1,000 ohms		H9	C23	24 μ F 350 P.V. Electrolytic		G5
R16	4,700 ohms		D7	TRANSFORMERS			
R17	0.1 megohm Tone Control (incl. S2)	26441	B5	T1	Loudspeaker Transformer	XA302	J13
R18	100 ohms		D8	T2	Power Transformer, 50-60 C.P.S.	25807C	J16
R19	47,000 ohms		H11		40 C.P.S.	25809C	
CAPACITORS							
C1	47 μ F silvered mica		C11	S1	SWITCHES		E14
C2	3-25 μ F trimmer	27526	B12	S2	Phono-Radio Switch	33092	C4
C3	4,000 μ F padder $\pm 2\frac{1}{2}\%$		E17		Power Switch (on R17)		
C4	2-20 μ F air trimmer	19659	C16		LOUDSPEAKER		
					12 inch Permanent Magnet	20755	